

B1

1. (Once Amended) An isolated polypeptide selected from the group consisting of:
 - a) a polypeptide comprising the amino acid sequence of SEQ ID NO:1,
 - b) a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to the amino acid sequence of SEQ ID NO:1,
 - c) a fragment of a polypeptide having the amino acid sequence of SEQ ID NO:1, said fragment having nucleotide pyrophosphohydrolase activity, and
 - d) an immunogenic fragment of a polypeptide having the amino acid sequence of SEQ ID NO:1.

B2

10. (Once Amended) An isolated antibody which specifically binds to a polypeptide selected from the group consisting of:
 - a) a polypeptide comprising the amino acid sequence of SEQ ID NO:1,
 - b) a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to the amino acid sequence of SEQ ID NO:1,
 - c) a fragment of a polypeptide having the amino acid sequence of SEQ ID NO:1, said fragment having nucleotide pyrophosphohydrolase activity, and
 - d) an immunogenic fragment of a polypeptide having the amino acid sequence of SEQ ID NO:1.

29. A diagnostic test for a condition or disease associated with the expression of NTPPH in a biological sample comprising the steps of:

- a) combining the biological sample with an antibody of claim 10, under conditions suitable for the antibody to bind the polypeptide and form an antibody: polypeptide complex; and
- b) detecting the complex, wherein the presence of the complex correlates with the presence of the polypeptide in the biological sample.

30. The antibody of claim 10, wherein the antibody is:

- (a) a chimeric antibody;
- (b) a single chain antibody;

- (c) a Fab fragment;
- (d) a F(ab')₂ fragment; or
- (e) a humanized antibody.

31. A composition comprising an antibody of claim 10 and an acceptable excipient.
32. A method of diagnosing a condition or disease associated with the expression of NTPPH in a subject, comprising administering to said subject an effective amount of the composition of claim 31.
33. A composition of claim 31, wherein the antibody is labeled.
34. A method of diagnosing a condition or disease associated with the expression of NTPPH in a subject, comprising administering to said subject an effective amount of the composition of claim 33.
35. A method of preparing a polyclonal antibody with the specificity of the antibody of claim 10 comprising:
 - a) immunizing an animal with a polypeptide of SEQ ID NO:1 or an immunogenic fragment thereof under conditions to elicit an antibody response;
 - b) isolating antibodies from said animal; and
 - c) screening the isolated antibodies with the polypeptide thereby identifying a polyclonal antibody which binds specifically to a polypeptide of SEQ ID NO:1.
36. An antibody produced by a method of claim 35.
37. A composition comprising the antibody of claim 36 and a suitable carrier.
38. A method of making a monoclonal antibody with the specificity of the antibody of claim 10

comprising:

- a) immunizing an animal with a polypeptide of SEQ ID NO:1 or an immunogenic fragment thereof under conditions to elicit an antibody response;
- b) isolating antibody producing cells from the animal;
- c) fusing the antibody producing cells with immortalized cells to form monoclonal antibody-producing hybridoma cells;
- d) culturing the hybridoma cells; and
- e) isolating from the culture monoclonal antibody which binds specifically to a polypeptide of SEQ ID NO:1.

39. A monoclonal antibody produced by a method of claim 38.

40. A composition comprising the antibody of claim 39 and a suitable carrier.

41. The antibody of claim 10, wherein the antibody is produced by screening a Fab expression library.

42. The antibody of claim 10, wherein the antibody is produced by screening a recombinant immunoglobulin library.

43. A method for detecting a polypeptide of SEQ ID NO:1 in a sample comprising the steps of:

- a) incubating the antibody of claim 10 with a sample under conditions to allow specific binding of the antibody and the polypeptide; and
- b) detecting specific binding, wherein specific binding indicates the presence of a polypeptide of SEQ ID NO:1 in the sample.

44. A method of purifying a polypeptide of SEQ ID NO:1 from a sample, the method comprising:

a) incubating the antibody of claim 10 with a sample under conditions to allow specific binding of the antibody and the polypeptide; and

b) separating the antibody from the sample and obtaining purified polypeptide of SEQ ID

NO:1.